

## STATEMENT OF BASIS

as required by LAC 33:IX.3109, for draft Louisiana Pollutant Discharge Elimination System Permit No. LA0105384; A1 40040; PER20050001 to discharge to waters of the State of Louisiana as per LAC 33:IX.2311.

The permitting authority for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality  
Office of Environmental Services  
P. O. Box 4313  
Baton Rouge, Louisiana 70821-4313

- I.           **THE APPLICANT IS:**   Tangipahoa Parish Sewerage District No.1  
Southeast Regional STP  
15481 W. Club Deluxe Road  
Hammond, LA 70403
- II.           **PREPARED BY:**       Angela Marse
- DATE PREPARED:**   May 17, 2006
- III.          **PERMIT ACTION:**   LPDES permit LA0105384, A1 40040; PER20050001

LPDES application received: August 4, 2005

LPDES permit effective:   February 1, 2001

LPDES permit expired:    January 31, 2006

## IV.        FACILITY INFORMATION:

- A.        The application is for the discharge of treated sanitary wastewater from a publicly owned treatment works serving the areas east of Range Road, south of US Hwy 190, north of I-12 and west of of Booker II Road.
- B.        The permit application did not indicate the receipt of industrial wastewater.
- C.        The facility is located at 18123 Wedgewood Drive in Hammond, Tangipahoa Parish.
- D.        The treatment facility consists of an aerated lagoon, clarifiers, tertiary man-made wetlands. Disinfection is by chlorination.
- E.        Outfall 001

Discharge Location:       Latitude 30° 29' 58" North  
                                  Longitude 90° 25' 13" West

Description:               treated sanitary wastewater

Design Capacity:         0.618 MGD

Type of Flow Measurement which the facility is currently using:

Totalizing Meter

**V. RECEIVING WATERS:**

The discharge is by effluent pipe, thence into Selser's Creek, thence into South Slough, thence into Barrow Canal, thence into Lake Maurepas in segment 040603 of the Lake Ponchartrain Basin. This segment is listed on the 303(d) list of impaired waterbodies.

The designated uses and degree of support for Segment 040603 of the Lake Ponchartrain Basin are as indicated in the table below<sup>1/</sup>:

Overall Degree of Support for Segment	Degree of Support of Each Use						
	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
Not Supported	Not Supported	Not Supported	Not Supported	N/A	N/A	N/A	N/A

<sup>1/</sup>The designated uses and degree of support for Segment 040603 of the Lake Ponchartrain Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2004 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

Section 303(d) of the Federal Clean Water Act requires states to identify waterbodies that are not meeting water quality standards and to develop total maximum daily pollutant loads for those waterbodies. A pollutant is any substance introduced into the waters of the state by any means that would tend to degrade or impair the chemical, physical, biological, or radiological integrity of such environment. Segment 040603 of the Lake Pontchartrain Basin is on the 303(d) list of impaired waters. The suspected causes of impairment are ammonia, nitrate/nitrite, organic enrichment/low DO, pathogen indicators, and phosphorus. Section 303(d) of the Federal Clean Water Act further requires that states develop TMDL (Total Maximum Daily Loading) Management Plans for waterbodies determined to be water quality limited.

To date no TMDLs have been completed for this waterbody. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements if required by a TMDL. Causes of the previous listed impairments have been associated with sanitary sewage treatment and will be addressed in the proposed permit as follows.

**Organic enrichment/Low DO and Nutrients**

LDEQ's Pre-TMDL Permitting Strategy states that new or expanding dischargers greater than 100,000 GPD will be given end-of-pipe limits capable of achieving water quality standards. This is critical for impaired waterbodies that are not meeting designated uses. For dissolved oxygen impairments it is assumed that limits of 5 mg/l CBOD<sub>5</sub>, 2 mg/l ammonia-nitrogen, and 5 mg/l dissolved oxygen will ensure compliance with water quality standards. Since the existing permit was issued for 300,000GPD at a 10mg/l BOD (25lbs/day), the increase of 318,000GPD (618,000 total) at 5 mg/l CBOD<sub>5</sub> will result in an increase of 13lbs/day. Therefore, the draft permit contains a mass limit of 38lb/day (25lbs/day + 13lbs/day). The concentration limit of 10mg/l CBOD<sub>5</sub> is being retained since the mass will be controlling. While the existing permit did not contain an ammonia limit, it is assumed that the ammonia concentration represented in the previous permit was 10 mg/l (based on previous permit BOD<sub>5</sub>). The proposed ammonia limits were derived similar to CBOD<sub>5</sub>. The previous permit was for 300,000 GPD at 10 mg/l ammonia-nitrogen (assumed) for a mass loading of 25 lbs/day; 318,000GPD at 2 mg/l (Pre-TMDL Strategy) yields and additional 5 lbs/day. The mass limit for ammonia-nitrogen is 30lbs/day. A concentration limit of 6 mg/l for ammonia-nitrogen is proposed in the permit.

**Pathogen indicators**

Monitoring for fecal coliform colonies is the best indicator for the potential presence of pathogenic organisms in wastewater. To protect against the development of pathogenic organisms in the receiving waterbodies, fecal coliform limits have been established in the permit.

**Phosphorus**

Phosphorus is a nutrient like nitrogen. It uses up dissolved oxygen needed to support aquatic life. LDEQ's water quality standards read "The naturally occurring range of nitrogen-phosphorus ratios shall be maintained. To establish the appropriate range of ratios and compensate for natural seasonal fluctuations, the administrative authority will use site-specific studies to establish limits for nutrients. Nutrient concentrations that produce aquatic growth to the extent that it creates a public nuisance or interferes with designated water uses shall not be added to any surface water." A TMDL will be done to determine address the phosphorus impairment. Until then, the limiting of ammonia-nitrogen, dissolved oxygen, and CBOD<sub>5</sub> will help keep phosphorus levels in range.

**VI. ENDANGERED SPECIES:**

The receiving waterbody, Subsegment 040603 of the Lake Ponchartrain Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish & Wildlife Service (FWS). This strategy was submitted with a letter dated October 21, 2005 from Watson (FWS) to Gautreaux (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered species or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

**VII. HISTORIC SITES:**

The discharge is from an existing facility location, which does not include an expansion beyond the existing perimeter. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the 'Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits' no consultation with the Louisiana State Historic Preservation Officer is required.

**VIII. PUBLIC NOTICE:**

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit modification and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Mrs. Angela Marse  
Permits Division  
Department of Environmental Quality  
Office of Environmental Services  
P. O. Box 4313  
Baton Rouge, Louisiana 70821-4313

**IX. PROPOSED PERMIT LIMITS:**

The previous permit was issued with effluent limits based on the Statewide Sanitary Effluent Limitations Policy and did not include ammonia-nitrogen or dissolved oxygen. Since the issuance of the previous permit, LDEQ has identified the receiving waterbody to be impaired for nutrients, organic enrichment/ low DO, phosphorus, and pathogen indicators. These impairments prevent the waterbody from meeting its designated uses and can be attributed to discharges consistent with that of sanitary wastewater. In addition, Sewer District No.1 has increased their design capacity to 0.618MGD (from 0.3 MGD). LDEQ's Pre-TMDL Permitting Strategy states that new or expanding dischargers greater than 100,000 GPD will be given end-of-pipe limits capable of achieving water quality standards. Therefore, to address nutrients and low DO impairments ammonia-nitrogen and dissolved oxygen limits have been included in the permit (as discussed in Section V. Receiving Waters). A three-year compliance period is included in the permit to allow for achievement of these limits. TMDL studies will be completed in the Lake Pontchartrain Basin by 2011. The permittee should be aware that these studies could indicate the need for more stringent limits in the future.

**Interim Effluent Limits:****OUTFALL 001**

Final limits shall become effective on the effective date of the permit and expire three years from the effective date of the permit.

<b>Effluent Characteristic</b>	<b>Monthly Avg. (lbs./day)</b>	<b>Monthly Avg.</b>	<b>Weekly Avg.</b>	<b>Basis</b>
CBOD <sub>5</sub>	38	10 mg/l	15 mg/l	BPJ based on previous permit limits. Whenever ammonia-nitrogen is required in the permit, CBOD <sub>5</sub> is required rather than BOD <sub>5</sub> .
TSS	77	15 mg/l	23 mg/l	Since there is no numeric water quality criterion for TSS, and in accordance with the current Water Quality Management Plan, the TSS effluent limitations shall be based on a case-by-case evaluation of the treatment technology being utilized at a facility. Therefore, a Technology Based Limit has been established through Best Professional Judgement for the type of treatment technology utilized at this facility.
Ammonia-Nitrogen	---	Report mg/l	Report mg/l	BPJ based on receiving stream impairments.
Dissolved Oxygen	---	Report mg/l	---	Best Professional Judgment based on Water Quality Standards found in LAC 33.PART IX, Subpart 1, Table 3.

**\*\*This Dissolved Oxygen limit is the lowest allowable average of daily discharges over a calendar month. When monitoring is conducted, the Dissolved Oxygen shall be analyzed immediately, as per 40 CFR 136.3.**

**Other Effluent Limitations:**

**1) Fecal Coliform**

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.b.i, the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

**2) pH**

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C., the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

**3) Solids and Foam**

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

**Final Effluent Limitations:**

**OUTFALL 001**

Final limits shall become effective on three years from the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
CBOD <sub>5</sub>	38	10 mg/l	15 mg/l	BPJ based on previous permit limits. Whenever ammonia-nitrogen is required in the permit, CBOD <sub>5</sub> is required rather than BOD <sub>5</sub> .
TSS	77	15 mg/l	23 mg/l	Since there is no numeric water quality criterion for TSS, and in accordance with the current Water Quality Management Plan, the TSS effluent limitations shall be based on a case-by-case evaluation of the treatment technology being utilized at a facility. Therefore, a Technology Based Limit has been established through Best Professional Judgement for the type of treatment technology utilized at this facility.
Ammonia-Nitrogen	30	6 mg/l	12 mg/l	BPJ. Average concentration of assumed previous ammonia-nitrogen concentration and LDEQ's Pre-TMDL Permitting Strategy concentration.
Dissolved Oxygen	---	5 mg/l	---	Best Professional Judgment based on Water Quality Standards found in LAC 33.PART IX, Subpart 1, Table 3.

**\*\*This Dissolved Oxygen limit is the lowest allowable average of daily discharges over a calendar month. When monitoring is conducted, the Dissolved Oxygen shall be analyzed immediately, as per 40 CFR 136.3.**

**Other Effluent Limitations:****1) Fecal Coliform**

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.b.i, the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

**2) pH**

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C., the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

**3) Solids and Foam**

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

**X.****PREVIOUS PERMITS:**

LPDES Permit No. LA0105384: Issued: February 1, 2001  
Expired: January 31, 2006

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	Continuous	Recorder
BOD <sub>5</sub>	10 mg/l	15 mg/l	2/month	Grab
TSS	15 mg/l	23 mg/l	2/month	Grab
Fecal Coliform Colonies	200	400	2/month	Grab
pH	---	---	2/month	Grab

The permit contains pretreatment language.

The permit contains pollution prevention language.

**XI.****ENFORCEMENT AND SURVEILLANCE ACTIONS:****A) Inspections**

A review of the files indicates the following most recent inspection performed for this facility.

Date - March 19, 2003

Inspector - LDEQ

Findings and/or Violations -

1. The District did not complete the Pollution Prevention Audit for the period of January, 2001-2002 or January, 2002-2003.



2. A DMR review revealed 5 TSS violations, 3 BOD violations, and 1 Fecal coliform violation.

3. A floating curtain separating cells in aerated lagoon was submerged allowing the effluent to circumvent the full process.

**B) Compliance and/or Administrative Orders**

A review of the files indicates no recent enforcement actions administered against this facility.

**C) DMR Review**

A review of the discharge monitoring reports for the period beginning January, 2004 through December, 2005 has revealed the following violations:

<u>Effluent Characteristic</u>	<u>Number of Violations</u>
BOD <sub>5</sub> - (concentration)	3
TSS - (concentration)	3
Fecal Coliform	2

**XII. ADDITIONAL INFORMATION:**

Please be aware that the Department will be conducting a TMDL in the Lake Ponchartrain Basin scheduled for completion in 2011. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions as a result of the TMDL. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity of 0.618 MGD.

Effluent loadings are calculated using the following example:

$$\text{BOD: } 8.34 \text{ lb/gal} \times 0.618 \text{ MGD} \times 10 \text{ mg/l} = 52 \text{ lb/day}$$

At present, the Monitoring Requirements, Sample Types, and Frequency of Sampling as shown in the permit are standard for facilities of flows between 0.5 and 1.0 MGD.

<u>Effluent Characteristics</u>	<u>Monitoring Requirements</u>	
	<u>Measurement</u>	<u>Sample</u>
	<u>Frequency</u>	<u>Type</u>
Flow	Continuous	Recorder
BOD <sub>5</sub>	1/week	3 hr. composite
Total Suspended Solids	1/week	3 hr. composite
Ammonia-Nitrogen	1/week	3 hr. composite
Dissolved Oxygen	1/week	Grab
Fecal Coliform Bacteria	1/week	Grab
pH	1/week	Grab

Permit limits are proposed for ammonia-nitrogen and dissolved oxygen are based upon the LDEQ's Pre-TMDL Permitting Strategy and receiving water impairments. In order for the permittee to comply with these permit limits, a compliance schedule is proposed. The permittee shall achieve compliance with the FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS as specified in accordance with the following schedule:

ACTIVITY	DATE
Achieve Final Effluent Limitations and Monitoring Requirements	Three years from the effective date of the permit.

#### **Pretreatment Requirements**

Based upon consultation with LDEQ pretreatment personnel, standard pretreatment language has been included in the permit.

### **XIII**

#### **TENTATIVE DETERMINATION:**

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Statement of Basis.

### **XIV**

#### **REFERENCES:**

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 1998.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2004.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, Tangipahoa Parish Sewerage District No.1, Southeast Regional STP, August 4, 2005.